This listing of claims will replace all prior versions and listings of claims in the reissue application:

Listing of Claims:

Claim 1. (Amended) In a PEM fuel cell having at least one cell comprising a pair of opposite polarity electrodes, a membrane electrolyte [intedacent] interjacent said electrodes for conducting ions therebetween, and an electrically conductive contact element having a working face confronting at least one of said [electrodessfor] electrodes for conducting electrical current from said one electrode, the improvement comprising: said contact element comprising a corrosion-susceptible metal substrate and an electrically conductive, corrosion-resistant protective coating on said face to protect said substrate from the corrosive environment of said fuel cell, said protective coating comprising a mixture of electrically conductive particles dispersed throughout an oxidation-resistant and acid-resistant, water-insoluble polymeric matrix and having a resistivity no greater than about 50 ohm-cm, said mixture comprising graphite particles having a first particle size and other electrically conductive particles selected from the group consisting of gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals and carbon, said other particles having a second particle size less than said first particle size to enhance the packing density of said particles.

Claim 2. (Original) A fuel cell according to claim 1 wherein said carbon comprises carbon black.

Claim 3. (Original) A fuel cell according to claim 1 wherein said coating is electrophoretically deposited onto said substrate from a suspension of said particles in an aqueous solution of acid-solubilized polymer.

Claim 4. (Original) A fuel cell according to claim 1 wherein a discrete film of said coating is laminated onto said substrate to form said electrically conductive contact element.

Claim 5. (Original) A fuel cell according to claim 1 wherein a precursor of said coating is deposited onto said substrate from a solution thereof, dried and cured to form said coating.

Claim 6. (Original) A fuel cell according to claim 1 wherein said substrate comprises a first acid-soluble metal underlying a second acid-insoluble, passivating metal layer susceptible to oxidation in said environment.

Claim 7. (Original) A fuel cell according to claim 1 wherein said polymer matrix is selected from the group consisting of epoxies, silicones, polyamide-imides, polyether-imides, polyphenols, fluro-elastomers, polyesters, phenoxy-phenolics, epoxide-phenolics, acrylics and urethanes.

Claim 8. (Amended) In a PEM fuel cell having at least one cell comprising a pair of opposite polarity electrodes, a membrane electrolyte [intedjacent] interjacent said electrodes for conducting ions therebetween, and an electrically conductive contact element having a working face confronting at least one of said electrodes for conducting electrical current from said one electrode, the improvement comprising: said contact element comprising a corrosion-susceptible metal substrate and an electrically conductive, corrosion-resistant protective coating on said face to protect said substrate from the corrosive environment of said fuel cell, said protective coating comprising a plurality of electrically conductive particles dispersed throughout an oxidation-resistant and acid-resistant, water-insoluble polymeric matrix and having a resistivity no greater than about 50 ohm-cm, said substrate comprising a first acid-soluble metal underlying a second acid-insoluble, passivating layer susceptible to oxidation in said environment.

Claim 9. A product comprising:

a fuel cell comprising a bipolar plate and an electrically conductive corrosion-resistant protective coating over the bipolar plate, the coating comprising a water-insoluble polymer and a plurality of first electrically conductive particles, and a plurality of second electrically conductive particles, the first particles being larger than the second particles, the first particles forming interstices therebetween and the at least a portion of the second particle filling the interstices.

Claim 10. A product as set forth in claim 9 wherein the bipolar plate comprises a first layer and a second layer over the first layer, and wherein the coating is over the second layer, and the second layer comprises at least one selected from the following: a physical vapor deposited metal, a chemical vapor deposited metal or metal clad material.

Claim 11. A product as set forth in claim 9 wherein the bipolar plate comprises a first layer comprising a metal.

Claim12. A product as set forth in claim 9 wherein the bipolar plate comprises a first layer comprising aluminum.

Claim13. A product as set forth in claim 9 wherein the bipolar plate comprises a first layer comprising stainless steel.

Claim 14. A product as set forth in claim 9 wherein the bipolar plate comprises a first layer comprising titanium.

Claim 15. A product as set forth in claim 9 wherein the bipolar plate comprises a first layer comprising a corrosion- susceptible metal.

Claim 16. A product as set forth in claim 9 wherein the bipolar plate comprises a first layer comprising a metal susceptible to oxidation.

Claim 17. A product as set forth in claim 9 wherein the bipolar plate comprises a barrier having a passivating oxide film formed thereon.

Claim 18. A product as set forth in claim 9 wherein the bipolar plate comprises a first layer comprising a corrosion- susceptible metal, and wherein the substrate further comprises a second layer over the first layer, the second layer comprising a metal having a passivating oxide film formed thereon.

Claim 19. A product as set forth in claim 9 wherein the bipolar plate comprises a first layer comprising a corrosion- susceptible metal, and wherein the substrate further comprises a second layer over the first layer.

Claim 20. A product as set forth in claim 9 wherein the coating has a thickness ranging from about 15 to about 25 microns.

Claim 21. A product as set forth in claim 9 wherein the first particles have a size ranging from about 5-20 microns.

Claim 22. A product as set forth in claim 9 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 23. A product as set forth in claim 9 wherein the first particles comprise graphite.

Claim 24. A product as set forth in claim 9 wherein the second particles comprise carbon black.

Claim 25. A product as set forth in claim 9 wherein the first particles comprise graphite and the second particle comprise carbon black.

Claim 26. A product as set forth in claim 25 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 27. A product as set forth in claim 9 wherein the second particles comprise at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals, carbon, carbon black or mixtures thereof.

Claim 28. A product as set forth in claim 9 wherein the coating has a thickness ranging from about 5 to about 75 microns.

Claim 29. A product as set forth in claim 9 wherein the coating has a thickness ranging from about 15 to about 25 microns.

Claim 30. A product as set forth in claim 9 wherein the first particles have a size ranging from about 5-20 microns.

Claim 31. A product as set forth in claim 9 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 32. A product as set forth in claim 9 wherein the first particles comprise graphite.

Claim 33. A product as set forth in claim 9 wherein the second particles comprise carbon.

Claim 34. A product as set forth in claim 9 wherein the second particles comprise carbon black.

Claim 35. A product as set forth in claim 9 wherein the first particles comprise graphite and the second particle comprise carbon black.

Claim 36. A product as set forth in claim 35 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 37. A product as set forth in claim 9 wherein the second particles comprise at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals, carbon, carbon black or mixtures thereof.

Claim 38. A product as set forth in claim 37 wherein the second particle have a size less than the first particles to enhance the packing density of the particles.

Claim 39. A product as set forth in claim 9 the polymer comprises at least one selected from the following: an epoxy, silicone, polyamide-imide, polyether-imide, ploy phenol, fluro-elastomer, polyester, phnoxy-phenolic, epoxide-phenolic, acrylic, urethane or mixtures thereof.

Claim 40. A product comprising:

an electrically conductive contact element for a fuel cell and an electrically conductive corrosion-resistant protective coating over the contact element, the coating comprising a water-insoluble polymer and a plurality of first electrically conductive particles, and a plurality of second electrically conductive particles, the first particles being larger that second particles and filling, the first particles form interstices therebetween and at least a portion of the second particle filling the interstices.

Claim 41. A product as set forth in claim 40 wherein the contact element comprises a first layer and a second layer over the first layer, and wherein the coating is over the second layer, and the second layer comprises at least one of a physical vapor deposited metal, a chemical vapor deposited metal and metal clad material.

Claim 42. A product as set forth in claim 40 wherein the contact element comprises a first layer comprising a metal.

Claim 43. A product as set forth in claim 40 wherein the contact element comprises a first layer comprising a corrosion- susceptible metal, and wherein the substrate further comprises a second layer over the first layer, the second layer comprising a metal having a passivating oxide film formed thereon.

Claim 44. A product as set forth in claim 43 wherein the first layer comprises aluminum, and the second layer comprises at least one of stainless steel and titanium.

Claim 45. A product comprising:

a fuel cell comprising an electrically conductive contact element and an electrically conductive corrosion-resistant protective coating over the contact element, the coating comprising a water-insoluble polymer and a plurality of first electrically conductive particles comprising graphite, and a plurality of second electrically conductive particles, the first particles being larger that second particles and filling, the first particles forming interstices therebetween and at least a portion of the second particle filling the interstices.

Claim 46. A product as set forth in claim 45 wherein the contact element comprises a first layer comprising a metal.

Claim 47. A product as set forth in claim 45 wherein the contact element comprises a first layer comprising aluminum.

Claim 48. A product as set forth in claim 45 wherein the contact element comprises a first layer comprising stainless steel.

Claim 49. A product as set forth in claim 45 wherein the contact element comprises a first layer comprising titanium.

Claim 50. A product as set forth in claim 45 wherein the contact element comprises a first layer comprising a corrosion- susceptible metal.

Claim 51. A product as set forth in claim 45 wherein the contact element comprises a first layer comprising a metal susceptible to oxidation.

Claim 52. A product as set forth in claim 45 wherein the contact element comprises a barrier having a passivating oxide film formed thereon.

Claim 53. A product as set forth in claim 45 wherein the contact element comprises a first layer comprising a corrosion- susceptible metal, and wherein the substrate further comprises a second layer over the first layer, the second layer comprising a metal having a passivating oxide film formed thereon.

Claim 54. A product as set forth in claim 45 wherein the coating has a thickness ranging from about 5 to about 75 microns.

Claim 55. A product as set forth in claim 45 wherein the coating has a thickness ranging from about 15 to about 25 microns.

Claim 56. A product as set forth in claim 45 wherein the first particles have a size ranging from about 5-20 microns.

Claim 57. A product as set forth in claim 45 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 58. A product as set forth in claim 45 wherein the bipolar plate comprises a first layer and a second layer over the first layer, and wherein the coating is over the second layer, and the second layer comprises at least one selected from the following: a physical vapor deposited metal, a chemical vapor deposited metal or metal clad material.

Claim 59. A product as set forth in claim 45 wherein the second particles comprise carbon.

Claim 60. A product as set forth in claim 45 wherein the second particles comprise carbon black.

Claim 61. A product as set forth in claim 45 wherein the first particles comprise graphite and the second particle comprise carbon black.

Claim 62. A product as set forth in claim 61 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 63. A product as set forth in claim 45 wherein the second particles comprise at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals, carbon, carbon black or mixtures thereof.

Claim 64. A product as set forth in claim 45 the polymer comprises at least one selected from the following an epoxy, silicone, polyamide-imide, polyether-imide, ploy phenol, fluro-elastomer, polyester, phnoxy-phenolic, epoxide-phenolic, acrylic, urethane or mixtures thereof.

Claim 65. A product comprising:

a fuel cell comprising an electrically conductive contact element and an electrically conductive corrosion-resistant protective coating over the contact element, the coating comprising a water-insoluble corrosion-resistant polymer and a plurality of first electrically conductive particles, the contact element comprising a first layer comprising a corrosion-

susceptible metal and a second layer comprising a metal over the first layer, and wherein the coating overlies the second layer.

Claim 66. A product as set forth in claim 65 wherein the electrically conductive contact element comprises a bipolar plate.

Claim 67. A product as set forth in claim 65 further comprising a plurality of second electrically conductive particles, the first particles being larger than the second particles, the first particles forming interstices therebetween and the at least a portion of the second particle filling the interstices.

Claim 68. A product as set forth in claim 67 wherein the first particles comprise graphite.

Claim 69. A product as set forth in claim 67 wherein the second particles comprise carbon black.

Claim 70. A product as set forth in claim 67 wherein the first particles comprise graphite and the second particles comprise carbon black.

Claim 71. A product as set forth in claim 70 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 72. A product as set forth in claim 67 wherein the second particles comprise at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals, carbon, carbon black or mixture thereof.

Claim 73. A product as set forth in claim 65 wherein the second layer comprises a metal clad.

Claim 74. A product as set forth in claim 65 wherein the second layer comprises a physical vapor deposited metal.

Claim 75. A product as set forth in claim 74 wherein the physical vapor deposited metal comprises titanium.

Claim 76. A product as set forth in claim 74 wherein the physical vapor deposited metal comprises stainless steel.

Claim 77. A product as set forth in claim 65 wherein the second layer comprises a chemical vapor deposited metal.

Claim 78. A product as set forth in claim 9 wherein the bipolar plate comprises a first exterior sheet and a second exterior sheet, and wherein each of the first exterior sheet and second exterior sheet includes an underside including a plurality channels to permit coolant to flow through the bipolar plate.

Claim 79. A product as set forth in claim 45 wherein the contact element comprises a first layer and a second layer over the first layer, and wherein the coating is over the second layer, and the second layer comprises at least one of a physical vapor deposited metal, a chemical vapor deposited metal and metal clad material.

Claim 80. A PEM fuel cell comprising:

at least one cell comprising a pair of opposite polarity electrodes, a membrane electrolyte adjacent each of said electrodes for conducting ions therebetween, and an electrically conductive contact element having a working face confronting at least one of said electrodes for conducting electrical current from said one electrode, said contact element comprising a corrosion-susceptible metal substrate and an electrically conductive, corrosion-resistant protective coating on said face to protect said substrate from the corrosive environment of said fuel cell, said protective coating comprising a mixture of electrically conductive particles dispersed throughout

an oxidation-resistant and acid-resistant, water-insoluble polymeric matrix, said mixture comprising graphite particles having a first particle size and other electrically conductive particles comprising at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium- alloyed titanium, nickel-alloyed titanium, rare earth metals and carbon, or mixtures thereof; said other particles having a second particle size less than said first particle size to enhance the packing density of said particles.

Claim 81. A product comprising:

a fuel cell comprising an electrical conductive contact element and an electrically conductive corrosion-resistant protective coating over the contact element, the coating comprising a water-insoluble polymer comprising at least one selected from the following: epoxy, silicone, polyamide-imide, polyether-imide, ploy phenol, fluro-elastomer, polyester, phnoxy-phenolic, epoxide-phenolic, acrylic, urethane or mixtures thereof; and a plurality of first electrically conductive particles.

Claim 82. A product as set forth in claim 81 wherein the first electrically conductive particle comprises graphite.

Claim 83. A product as set forth in claim 81 further comprising a plurality of second electrically conductive particles, the first particles being larger than the second particles, the first

particles forming interstices therebetween and the at least a portion of the second particle filling the interstices.

Claim 84. A product as set forth in claim 83 wherein the second electrically conductive particles comprise at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals, carbon, carbon black or mixtures thereof.

Claim 85. A product as set forth in claim 83 wherein the first electrically conductive particles comprise graphite and the second electrically conductive particles comprise carbon black.

Claim 86. A process comprising:

applying an electrically conductive corrosion-resistant protective coating over the bipolar plate for a fuel cell, the coating comprising a water-insoluble polymer and a plurality of first electrically conductive particles, and a plurality of second electrically conductive particles, the first particles being larger than the second particles, the first particles forming interstices therebetween and the at least a portion of the second particle filling the interstices.

Claim 87. A process as set forth in claim 86 wherein the bipolar plate comprises a first layer and a second layer over the first layer, and wherein the coating is over the second layer, and the second layer comprises at least one selected from the following: a physical vapor deposited metal, a chemical vapor deposited metal or metal clad material.

Claim 88. A process as set forth in claim 86 wherein the bipolar plate comprises a first layer comprising a metal.

Claim 89. A process as set forth in claim 86 wherein the bipolar plate comprises a first layer comprising aluminum.

Claim 90. A process as set forth in claim 86 wherein the bipolar plate comprises a first layer comprising stainless steel.

Claim 91. A process as set forth in claim 86 wherein the bipolar plate comprises a first layer comprising titanium.

Claim 92. A process as set forth in claim 86 wherein the bipolar plate comprises a first layer comprising a corrosion- susceptible metal.

Claim 93. A process as set forth in claim 86 wherein the bipolar plate comprises a first layer comprising a metal susceptible to oxidation.

Claim 94. A process as set forth in claim 86 wherein the bipolar plate comprises a barrier having a passivating oxide film formed thereon.

Claim 95. A process as set forth in claim 86 wherein the bipolar plate comprises a first layer comprising a corrosion- susceptible metal, and wherein the substrate further comprises a second layer over the first layer, the second layer comprising a metal having a passivating oxide film formed thereon.

Claim 96. A process as set forth in claim 86 wherein the coating has a thickness ranging from about 15 to about 25 microns.

Claim 97. A process as set forth in claim 86 wherein the first particles have a size ranging from about 5-20 microns.

Claim 98. A process as set forth in claim 86 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 99. A process as set forth in claim 86 wherein the first particles comprise graphite.

Claim 100. A process as set forth in claim 86 wherein the second particles comprise carbon black.

Claim 101. A process as set forth in claim 86 wherein the first particles comprise graphite and the second particle comprise carbon black.

Claim 102. A process as set forth in claim 101 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 103. A process as set forth in claim 86 wherein the second particles comprise at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals, carbon, carbon black or mixtures thereof.

Claim 104. A product as set forth in claim 86 wherein the coating has a thickness ranging from about 5 to about 75 microns.

Claim 105. A process as set forth in claim 86 wherein the coating has a thickness ranging from about 15 to about 25 microns.

Claim 106. A process as set forth in claim 86 wherein the first particles have a size ranging from about 5-20 microns.

Claim 107. A process as set forth in claim 86 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 108. A process as set forth in claim 86 wherein the first particles comprise graphite.

Claim 109. A process as set forth in claim 86 wherein the second particles comprise carbon.

Claim 110. A process as set forth in claim 86 wherein the second particles comprise carbon black.

Claim 111. A process as set forth in claim 86 wherein the first particles comprise graphite and the second particle comprise carbon black.

Claim 112. A process as set forth in claim 111 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 113. A process as set forth in claim 86 wherein the second particles comprise at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals, carbon, carbon black or mixtures thereof.

Claim 114. A process as set forth in claim 113 wherein the second particle have a size less than the first particles to enhance the packing density of the particles.

Claim 115. A process as set forth in claim 86 the polymer comprises at least one selected from the following: an epoxy, silicone, polyamide-imide, polyether-imide, ploy phenol, fluro-elastomer, polyester, phnoxy-phenolic, epoxide-phenolic, acrylic, urethane or mixtures thereof.

Claim 116. A process as set forth in claim 86 wherein the applying an electrically conductive corrosion-resistant protective coating comprises laminating a preformed discrete film of a coating material onto the bipolar plate.

Claim 117. A process as set forth in claim 86 wherein the applying an electrically conductive corrosion-resistant protective coating comprises applying a precursor layer of a coating material to the bipolar plate followed by drying and curing the coating material.

Claim 118. A process as set forth in claim 86 wherein the coating material comprises a slurry comprising said particles and a solvated polymer.

Claim 119. A process as set forth in claim 86 wherein the applying an electrically conductive corrosion-resistant protective coating comprises electrophoretically depositing a coating material onto the bipolar plate.

Claim 120. A process comprising:

applying an electrically conductive corrosion-resistant protective coating over an electrically conductive contact element for a fuel cell, the coating comprising a water-insoluble polymer and a plurality of first electrically conductive particles, and a plurality of second electrically conductive particles, the first particles being larger that second particles and filling, the first particles forming interstices therebetween and at least a portion of the second particle filling the interstices, and forming a fuel cell with the electrically conductive corrosion-resistant protective coated electrically conductive contact element.

Claim 121. A process as set forth in claim 120 wherein the contact element comprises a first layer and a second layer over the first layer, and wherein the coating is over the second layer, and the second layer comprises at least one of a physical vapor deposited metal, a chemical vapor deposited metal and metal clad material.

Claim 122. A process as set forth in claim 120 wherein the contact element comprises a first layer comprising a metal.

Claim 123. A process as set forth in claim 120 wherein the contact element comprises a first layer comprising a corrosion- susceptible metal, and wherein the substrate further comprises a second layer over the first layer, the second layer comprising a metal having a passivating oxide film formed thereon.

Claim 124. A process as set forth in claim 123 wherein the first layer comprises aluminum, and the second layer comprises at least one of stainless steel and titanium.

Claim 125. A process comprising:

appying an electrically conductive corrosion-resistant protective coating over an electrically conductive contact element, the coating comprising a water-insoluble polymer and a plurality of first electrically conductive particles comprising graphite, and a plurality of second electrically conductive particles, the first particles being larger that second particles and filling,

the first particles forming interstices therebetween and at least a portion of the second particle filling the interstices.

Claim 126. A process as set forth in claim 125 wherein the contact element comprises a first layer comprising a metal.

Claim 127. A process as set forth in claim 125 wherein the contact element comprises a first layer comprising aluminum.

Claim 128. A process as set forth in claim 125 wherein the contact element comprises a first layer comprising stainless steel.

Claim 129. A process as set forth in claim 125 wherein the contact element comprises a first layer comprising titanium.

Claim 130. A process as set forth in claim 125 wherein the contact element comprises a first layer comprising a corrosion- susceptible metal.

Claim 131. A process as set forth in claim 125 wherein the contact element comprises a first layer comprising a metal susceptible to oxidation.

Claim132. A process as set forth in claim 125 wherein the contact element comprises a barrier having a passivating oxide film formed thereon.

Claim 133. A process as set forth in claim 125 wherein the contact element comprises a first layer comprising a corrosion- susceptible metal, and wherein the substrate further comprises a second layer over the first layer, the second layer comprising a metal having a passivating oxide film formed thereon.

Claim 134. A process as set forth in claim 125 wherein the coating has a thickness ranging from about 5 to about 75 microns.

Claim 135. A process as set forth in claim 125 wherein the coating has a thickness ranging from about 15 to about 25 microns.

Claim 136. A process as set forth in claim 125 wherein the first particles have a size ranging from about 5-20 microns.

Claim 137. A process as set forth in claim 125 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 138. A process as set forth in claim 125 wherein the bipolar plate comprises a first layer and a second layer over the first layer, and wherein the coating is over the second layer, and the second layer comprises at least one selected from the following: a physical vapor deposited metal, a chemical vapor deposited metal or metal clad material.

Claim 139. A process as set forth in claim 125 wherein the second particles comprise carbon.

Claim 140. A process as set forth in claim 125 wherein the second particles comprise carbon black.

Claim 141. A process as set forth in claim 125 wherein the first particles comprise graphite and the second particle comprise carbon black.

Claim 142. A process as set forth in claim 141 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 143. A process as set forth in claim 125 wherein the second particles comprise at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium,

titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals, carbon, carbon black or mixtures thereof.

Claim 144. A process as set forth in claim 125 the polymer comprises at least one selected from the following an epoxy, silicone, polyamide-imide, polyether-imide, ploy phenol, fluro-elastomer, polyester, phnoxy-phenolic, epoxide-phenolic, acrylic, urethane or mixtures thereof.

Claim 145. A process comprising:

providing a contact element for a fuel cell comprising a first layer comprising a corrosion-susceptible metal and a second layer comprising a metal over the first layer, and applying an electrically conductive corrosion-resistant protective coating over the second layer, and wherein the coating comprising a water-insoluble corrosion-resistant polymer and a plurality of first electrically conductive particles.

Claim 146. A process as set forth in claim 145 wherein the electrically conductive contact element comprises a bipolar plate.

Claim 147. A process as set forth in claim 145 further comprising a plurality of second electrically conductive particles, the first particles being larger than the second particles,

the first particles forming interstices therebetween and the at least a portion of the second particle filling the interstices.

Claim 148. A process as set forth in claim 147 wherein the first particles comprise graphite.

Claim 149. A process as set forth in claim 147 wherein the second particles comprise carbon black.

Claim 150. A process as set forth in claim 147 wherein the first particles comprise graphite and the second particles comprise carbon black.

Claim 151. A process as set forth in claim 150 wherein the first particles have a size ranging from about 5-20 microns and the second particles have a size ranging from about 0.5-1.5 microns.

Claim 152. A process as set forth in claim 147 wherein the second particles comprise at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals, carbon, carbon black or mixture thereof.

Claim 153. A process as set forth in claim 145 wherein the second layer comprises a metal clad.

Claim 154. A process as set forth in claim 145 wherein the second layer comprises a physical vapor deposited metal.

Claim 155. A process as set forth in claim 154 wherein the physical vapor deposited metal comprises titanium.

Claim 156. A process as set forth in claim 154 wherein the physical vapor deposited metal comprises stainless steel.

Claim 157. A process as set forth in claim 145 wherein the second layer comprises a chemical vapor deposited metal.

Claim 158. A process as set forth in claim 145 wherein the contact element comprises a bipolar plate comprises a first exterior sheet and a second exterior sheet, and wherein each of the first exterior sheet and second exterior sheet includes an underside including a plurality channels to permit coolant to flow through the bipolar plate.

Claim 159. A process as set forth in claim 145 wherein the contact element comprises a first layer and a second layer over the first layer, and wherein the coating is over the second layer, and the second layer comprises at least one of a physical vapor deposited metal, a chemical vapor deposited metal and metal clad material.

Claim 160. A process as set forth in claim 145 wherein the applying an electrically conductive corrosion-resistant protective coating comprises laminating a preformed discrete film of a coating material onto the bipolar plate.

Claim 161. A process as set forth in claim 145 wherein the applying an electrically conductive corrosion-resistant protective coating comprises applying a precursor layer of a coating material to the bipolar plate followed by drying and curing the coating material.

Claim 162. A process as set forth in claim 145 wherein the coating material comprises a slurry comprising said particles and a solvated polymer.

Claim 163. A process as set forth in claim 145 wherein the applying an electrically conductive corrosion-resistant protective coating comprises electrophoretically depositing a coating material onto the bipolar plate.

Claim 164. A process comprising:

applying an electrically conductive corrosion-resistant protective coating over the contact element for a fuel cell, the coating comprising a water-insoluble polymer comprising at least one selected from the following: epoxy, silicone, polyamide-imide, polyether-imide, ploy phenol, fluro-elastomer, polyester, phnoxy-phenolic, epoxide-phenolic, acrylic, urethane or mixtures thereof; and a plurality of first electrically conductive particles.

Claim 165. A process as set forth in claim 164 wherein the first electrically conductive particle comprises graphite.

Claim 166. A process as set forth in claim 165 further comprising a plurality of second electrically conductive particles, the first particles being larger than the second particles, the first particles forming interstices therebetween and the at least a portion of the second particle filling the interstices.

Claim 167. A process as set forth in claim 166 wherein the second electrically conductive particles comprise at least one selected from the following: gold, platinum, nickel, palladium, rhodium, niobium, titanium carbide, titanium nitride, titanium diboride, chromium-alloyed titanium, nickel-alloyed titanium, rare earth metals, carbon, carbon black or mixtures thereof.

Claim 168. A process as set forth in claim 164 wherein the first electrically conductive particles comprise graphite and the second electrically conductive particles comprise carbon black.

Claim169. A process as set forth in claim 164 wherein the applying an electrically conductive corrosion-resistant protective coating comprises laminating a preformed discrete film of a coating material onto the bipolar plate.

Claim 170. A process as set forth in claim 164 wherein the applying an electrically conductive corrosion-resistant protective coating comprises applying a precursor layer of a coating material to the bipolar plate followed by drying and curing the coating material.

Claim 171. A process as set forth in claim 164 wherein the coating material comprises a slurry comprising said particles and a solvated polymer.

Claim 172. A process as set forth in claim 164 wherein the applying an electrically conductive corrosion-resistant protective coating comprises electrophoretically depositing a coating material onto the bipolar plate.